

REMARKS

Examiner T. Noland, is thanked for the thorough examination and search of the subject Patent Application and for finding allowable subject matter in Claims 8 and 9. Claims 1, 9, and 17 have been amended. Claims 8 and 22-31 have been canceled.

The Examiner's Final Restriction Requirement is acknowledged. Applicant's reserve the right to file a Divisional application for the non-elected claims at a later date. Non-elected Claims 22-31 have been canceled.

All Claims are believed to be in condition for Allowance, and that is so requested.

Reconsideration of the drawings objected to in Fig. 2 because box elements 150a-150c are not labeled with "Flow Meter" is requested based on Amended Drawing Fig. 2 as attached to this response. The requested labeling has been added to Fig. 2.

Reconsideration of Claim 17 objected to because an informality in the wording of Claim 17 is requested based on Amended Claim 17 and on the following remarks.

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Claim 17 has been amended to make "milligram" a single word as requested by the Examiner.

Reconsideration of Claim 17 objected to because an informality in the wording of Claim 17 is requested based on Amended Claim 17 and on the above remarks.

Reconsideration of Claim 9 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention is requested based on Amended Claim 9 and on the following remarks.

Claim 9 has been amended to change the reference "said flow" to "flow" to thereby remove the problem with antecedent basis.

Reconsideration of Claim 9 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention is requested based on Amended Claim 9 and on the above remarks.

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Reconsideration of Claims 1-2 and 13-15 rejected under 35 U.S.C. 102(b) as being anticipated by Bang et al (U.S. 5,948,958) is requested based on Amended Claim 1 and on the following remarks.

Applicant notes the Examiner's comment that Claim 8 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Therefore, Applicant has amended Claim 1 to include the limitations of Claim 8. Amended Claim 1 now reads:

1. (Currently Amended) A method of self-calibrating and testing the vaporized flow of a liquid precursor in a thin film vaporization system comprising the steps of:

providing a thin film vaporization system comprising stored liquid precursors in tanks under pressure connected to a deposition chamber via a manifold which in turn is connected to pipe lines emanating from each tank and coupled to own liquid flow meters (LFMs) and injection valves (IVs);

activating a servo mechanism to pump down said deposition chamber to achieve partial vacuum therein;

opening a downstream throttle valve (TV) for a carrier gas to flow through said manifold to commence self-calibration wherein said carrier gas is a second helium;

a first timing to monitor a baseline self-calibrated pressure by a pre-determined TV opening which correlates with the specified baseline pressure in said deposition chamber;

a second timing to allow for the stabilization of carrier gas after throttling said TV to a predetermined opening;

selecting a liquid precursor and its own said respective pipe line with said own LFM and own IV connected to said deposition chamber via said manifold;

setting said own IV to a predetermined opening to start said liquid precursor to flow;

setting said TV opening to a normal liquid precursor flow rate for film deposition;

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a third timing to allow for liquid precursor flow to stabilize;

a fourth timing to allow vaporization of said liquid precursor in said deposition chamber;

measuring final pressure in said deposition chamber;

stopping the flow of said precursor fluid; and

pumping down said deposition chamber to continue with said film deposition pending the result of said pressure rise.

The amendment to Claim 1 should remove the rejection of Claim 1 under 35 U.S.C. 102(b). In addition, Claims 2 and 13-15 represent patentably distinct, further limitations on Claim 1 and should not be rejected under 35 U.S.C. 102(b).

Reconsideration of Claims 1-2 and 13-15 rejected under 35 U.S.C. 102(b) as being anticipated by Bang et al (U.S. 5,948,958) is requested based on Amended Claim 1 and on the following remarks.

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Reconsideration of Claims 3-7, 10-12, and 16-21 rejected under 35 U.S.C. 103(a) as being unpatentable over Bang et al (U.S. 5,948,958) is requested based on Amended Claims 1 and 17 and on the following remarks.

As described above, Claim 1 has been amended to include the allowable subject matter of Claim 8. The amendment to Claim 1 should remove the rejection of Claims 3-7, 10-12, and 16-21 under 35 U.S.C. 103(a).

Reconsideration of Claims 3-7, 10-12, and 16-21 rejected under 35 U.S.C. 103(a) as being unpatentable over Bang et al (U.S. 5,948,958) is requested based on Amended Claims 1 and 17 and on the above remarks.

Applicants have reviewed the prior art made of record and not relied upon and have discussed their impact on the present invention above.

Allowance of all Claims is requested.

It is requested that should the Examiner not find that the Claims are now Allowable that the Examiner call the undersigned at 989-894-4392 to overcome any problems preventing allowance.

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Respectfully submitted,

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